

REMARKS

The rejection has been considered at length. However, for the reasons set forth below, it is believed that the claimed subject matter would not have been rendered obvious by the cited references.

Claims 1, 3-5 and 8-35 are pending, and claims 1, 3-5, 8-10, 12 and 17-22 and 34-35 have been examined on the merits. The status identifiers for claims 32-33 has been changed as requested in the Office Action. No new matter has been added.

Further a substitute specification was required by the Office Action, because the specification does not have a BRIEF DESCRIPTION OF THE DRAWINGS. A substitute specification showing all of the changes relative to the immediate prior version on records, and an accompanying clean version (without markings) are submitted herewith. The substitute specification contains no new matter.

In the Office Action, claims 1, 3-5, 8-10, 12 17-22 and 34-35 are rejected under 35 U.S.C. § 103(a) as being obvious over Yamada (U.S. Patent No. 5,024,927, hereinafter “Yamada”) in view of Saito et al (U.S. Patent No. 5,021,114, hereinafter “Saito”) and further in view of Otto et al (U.S. Patent No. 5,643,638, hereinafter “Otto”). Applicants respectfully traverse.

As set forth in the previous responses, Applicants’ claimed invention is directed to a method for using high frequency pulse plasma to form an inorganic/organic coating comprising nanoparticles (*e.g.*, page 2, lines 20-27). As described in the specification, the plasma is pulsed to liberate the particles captured therein from the plasma volume and to effect deposition on the substrate to be coated (*e.g.*, page 14, lines 18-20). Therefore, the invention provides for a

method wherein the particles captured in the plasma are liberated from the plasma volume resulting in the deposition on the substrate to be coated.

As previously submitted, Yamada does not teach Applicants' claimed invention. Yamada only provides for alternate current (AC) which either is deemed to be the normal source of current, or it is deemed to be indicating so-called "radio frequency glow discharge", wherein a sine-wave current of radio-frequency is applied, also indicating a duty cycle of 50% (*e.g.*, col. 7, lines 21-26). On the other hand, Saito is completely silent with regards to pulsed plasma. Accordingly, it was previously submitted that the combination of Yamada with Saito does not teach, disclose or even suggested the claimed limitations.

Otto teaches a method for producing a gradient layer, wherein the composition of the coating is so changed that the substrate side of the coating exhibits excellent adherence and the substrate side exposed to air exhibits high hardness (*e.g.*, col. 4, lines 1-8 and 65-67). Furthermore, these gradient layers do not comprise nanoparticles and therefore are substantially different from the coatings of the presently claimed invention. A skilled person would interpret the teachings of Otto as limited to such gradient layers only. Further, nowhere in Otto there is a suggestion that pulsed plasma is applicable to other types of layers, let alone to the hybrid coating comprising nanoparticles as presently claimed.

Thus, a skilled person would not find any motivation to combine the teaching of Otto with the teachings of Yamada and Saito because he would not know whether the use of plasma pulsed CVD methods would contribute to the formation of an inorganic/organic hybrid coating comprising nanoparticles. Otto does not provide the skilled person with an incentive to use the pulsed plasma system in the method of Yamada and Saito, nor would the skilled person have a reasonable expectation of success that such a method would eventually work.

Moreover, if a skilled person would combine Otto with Yamada and Saito, he would not know how to combine the teachings. All of these references describe many embodiments all having a number of variations. A skilled person is not provided with any guidance as of which elements should be selected and how to combine them. Without such guidance, it would be an undue burden to test all possible combinations to arrive at the presently claimed methods.

Thus, it is respectfully submitted that the cited combination would not have rendered obvious the claimed subject matter to one skilled in the art.

Accordingly, for all of these reasons, withdrawal of the rejection of claims 1, 3-5, 8-10, 12, 17-22 and 34-35 under 35 U.S.C. § 103(a) is respectfully requested.

This response is being filed within the shortened statutory period for response, thus, no fees are believed to be due. If, on the other hand, it is determined that further fees are necessary or any overpayment has been made, the Commissioner is hereby authorized to debit or credit such sum to Deposit Account No. 02-2275.

Pursuant to 37 C.F.R. § 1.136(a), please treat this and any concurrent or future reply in this application that requires a petition for an extension of time of its timely submission as incorporating a petition for extension of time for the appropriate length of time. The fee associated herewith is to be charged to the above-mentioned deposit account.

An early and favorable action on the merits is earnestly solicited.

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Respectfully submitted,

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